

Application No. 10/696,208
Amendment dated April 6, 2010
Reply to Office Action of December 11, 2009

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes new FIG. 9. FIG. 9 illustrates example operations for recovering data.

Attachment: New Sheet

REMARKS

This is intended as a full and complete response to the Office Action dated December 11, 2009, having a shortened statutory period for response extended one month and set to expire on April 12, 2010. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-32 are pending in the application. Claims 27-32 have been canceled. Claims 1-27 remain pending following entry of this amendment. Applicants submit that the amendments do not introduce new matter.

Further, Applicants are not conceding in this application that those amended (or canceled) claims are not patentable over the art cited by the Examiner, as the present claim amendments and cancellations are only for facilitating expeditious prosecution of the claimed subject matter. Applicants respectfully reserve the right to pursue these (pre-amended or canceled claims) and other claims in one or more continuations and/or divisional patent applications.

Drawing Objections

The drawings are objected to under 37 C.F.R. 1.83(a) as not showing every feature of the invention specified in claims 1-11.

Applicants submit new FIG. 9 which illustrates a flow diagram of operations recited in claim 1. Applicants submit this figure does not add new matter as it corresponds to the elements recited in original claim 1, with the additional recitation that a transformation is performed in the frequency domain (e.g., as recited in paragraph [0045]). Further, Applicants submit that this and other figures, along with corresponding text clearly describe particular features recited in dependent claims 2-11.

For at least these reasons, Applicants respectfully submit that the requirements of 37 C.F.R. 1.83(a) are met and respectfully request withdrawal of this objection.

Claim Rejections - 35 U.S.C. § 101

Claims 27-32 are rejected under 35 U.S.C. 101 because allegedly the disclosed invention is inoperative and therefore lacks utility. Claims 27-32 are rejected under 35 U.S.C. 101 because the claimed invention allegedly is directed to non-statutory subject matter.

Applicants respectfully submit that these claims have been cancelled, without prejudice, disclaimer or acquiescence to the Examiner's opinion in the office action, and respectfully request withdrawal of this rejection.

Applicants reserve the right to file one or more continuing application using the subject matter of the cancelled claims.

Claim Rejections - 35 U.S.C. § 112

Claims 21-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description and enablement requirements.

Claim 21 has been amended to recite a "memory unit storing software codes, the software codes executable by a processor for..." performing recited operations. Applicants respectfully submit that paragraph [0118] of the present disclosure clearly supports this claim:

[0118] For a software implementation, any one or a combination of the techniques may be implemented with modules (e.g., procedures, functions, and so on) that perform the functions described herein. The software codes may be stored in a memory unit (e.g., memory 232 or 272 in FIG. 2) and executed by a processor (e.g., controller 230 or 270). The memory unit may be implemented within the processor or external to the processor, in which case it can be communicatively coupled to the processor via various means as it known in the art.

For at least these reasons, Applicants respectfully request these claims satisfy the written description and enablement requirements and respectfully request withdrawal of this rejection with respect to these claims.

Claims 27-32 are also rejected under 35 U.S.C. 112.

Applicants respectfully submit that these claims have been cancelled and respectfully request withdrawal of this rejection.

RESPONSE TO ARGUMENTS

Applicants note that in responding to Applicants previously submitted arguments regarding the below-referenced 103 rejection, the Examiner fails to address any of the points raised below (and previously raised). Rather, the Examiner only states that “claims must be given their broadest reasonable interpretation and limitations from the specification may not be imputed to the claims.” Applicants appreciate this, but respectfully submit that the Examiner has failed to put forth a detailed and plausible broad reasonable interpretation of the claims that would render the claims obvious in light of the art of record. Further, Applicants respectfully submit that the arguments presented below are in no way attempting to impute limitations from the specification to the claims.

Claim Rejections - 35 U.S.C. § 103

Claims 1-2, 5-8, 12-13, 15-21, 23-25, 27-28 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Huang et al.* (U.S. Patent No. 5,870,378, hereinafter, “*Huang*”) in view of *Fazel* (“Narrow-Band Interference Rejection in Orthogonal Multi-carrier Spread-Spectrum Communications,” 1994 Third Annual International Conference on Universal Personal Communications, October 1994: pp. 46-50).

Applicants respectfully traverse these rejections.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2141. Establishing a *prima facie* case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and

(D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

Respectfully, Applicants submit that the Examiner has not properly characterized the teachings of the references and, as a result, has failed to ascertain differences between the claimed invention and the prior art.

In particular, Applicants respectfully submit that, even if combined, *Huang* and *Fazel* fail to teach all of the elements recited in the claims. For example, regarding claim 1, even if combined, *Huang* and *Fazel* fail to teach “transforming the data samples in the frequency domain in accordance with a particular transformation to provide transformed samples, despreading the transformed samples with one or more sets of despreading coefficients to provide despread samples, wherein each set of despreading coefficients is associated with a respective despreading code that corresponds to a spreading code used to spread data prior to transmission and selected from a set of available spreading codes, and combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol” as recited in claim 1. Independent claims 12, 13, 18-21 and 27 recite features similar to independent claim 1, that are also not taught by the combination of *Huang* and *Fazel*.

The present Office Action refers to arguments provided in the Office Action dated October 3, 2008 (hereinafter, “the Previous Office Action”). In Section 3 of the Previous Office Action, the Examiner relies on *Huang* as teaching most of the claim elements, but concedes that *Huang* fails to teach “transforming the data samples in the frequency domain prior to despreading the transformed samples.” However, the Examiner relies on *Fazel* as teaching this omitted element.

In particular, the Examiner refers to page 46, lines 15-20 of *Fazel*, which read:

The estimated interference and fading process will be used for weighting each received chip before despreading. The results showed that the combination of Spread-Spectrum/OFDM in the presence of multi-tone narrow-band interference in a frequency/time selective fading channel is a promising approach.

First off, Applicants respectfully submit that this does not teach “transforming the data samples in the frequency domain prior to despreading the transformed samples” at all, but only teaches “weighting each received chip” before despreading. There is absolutely no teaching that this weighting involves any transformation.

Further, despite the Examiner’s contention, *Huang* fails to teach “combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol.” As described in the Abstract, *Huang* is directed to a Multi-Code (MC) Code Division Multiple Access (CDMA) receiver. In the entire specification, *Huang* makes no mention of “OFDM” at all, and certainly not “combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol” as recited in the claims.

For at least these reasons, Applicants submit claims 1, 12, 13, 18-21 and 27, as well as their dependent claims, are allowable and respectfully request withdrawal of this rejection.

Claims 3-4 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Huang* in view of *Fazel*, and further in view of *Agee et al.* (U.S. Publication 2004/0095907, hereinafter, “*Agee*”).

These claims each depend, directly or indirectly, from claims 1 and 13 which Applicants submit are allowable over *Huang* in view of *Fazel* for at least the reasons discussed above. Applicants further submit that *Agee* fails to overcome the shortcomings in the teachings of *Huang* and *Fazel*. Accordingly, Applicants respectfully submit claims 3-4 and 14 are also allowable and respectfully request withdrawal of this rejection.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

CONCLUSION

Therefore, for at least the reasons presented above with respect to all of the pending claims subsequent to entry of this response, Applicants assert that all claims are patentably

distinct from all of the art of record. All objections and rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that effect is earnestly solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Charge Statement: For this application, the Commissioner is hereby authorized to charge any required fees or credit any overpayment to Deposit Account 17-0026.

Respectfully submitted,
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Date: April 6, 2010

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